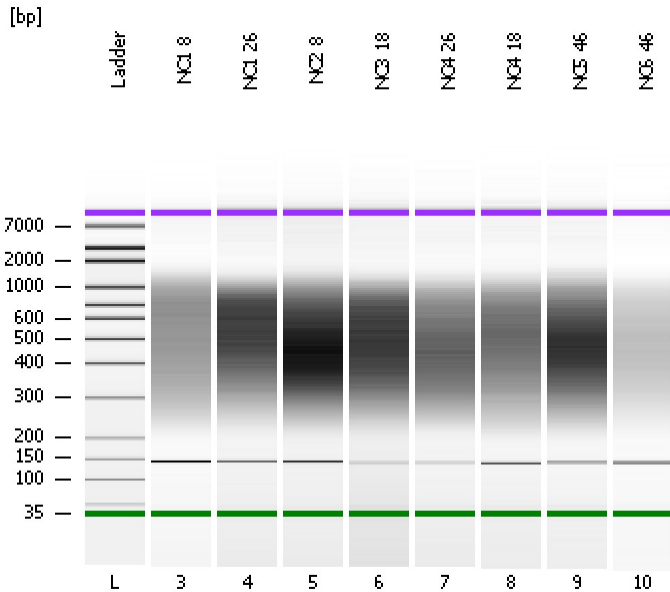


Assay Class: High Sensitivity DNA Assay  
Data Path: C:\...ings\Bioanalyzer\2015-12-16\2015-12-16\_001\_HiSeq357\_1-8.xad

Created: 12/16/2015 2:45:26 PM  
Modified: 12/16/2015 3:32:49 PM

**Electrophoresis File Run Summary**



Instrument Information:

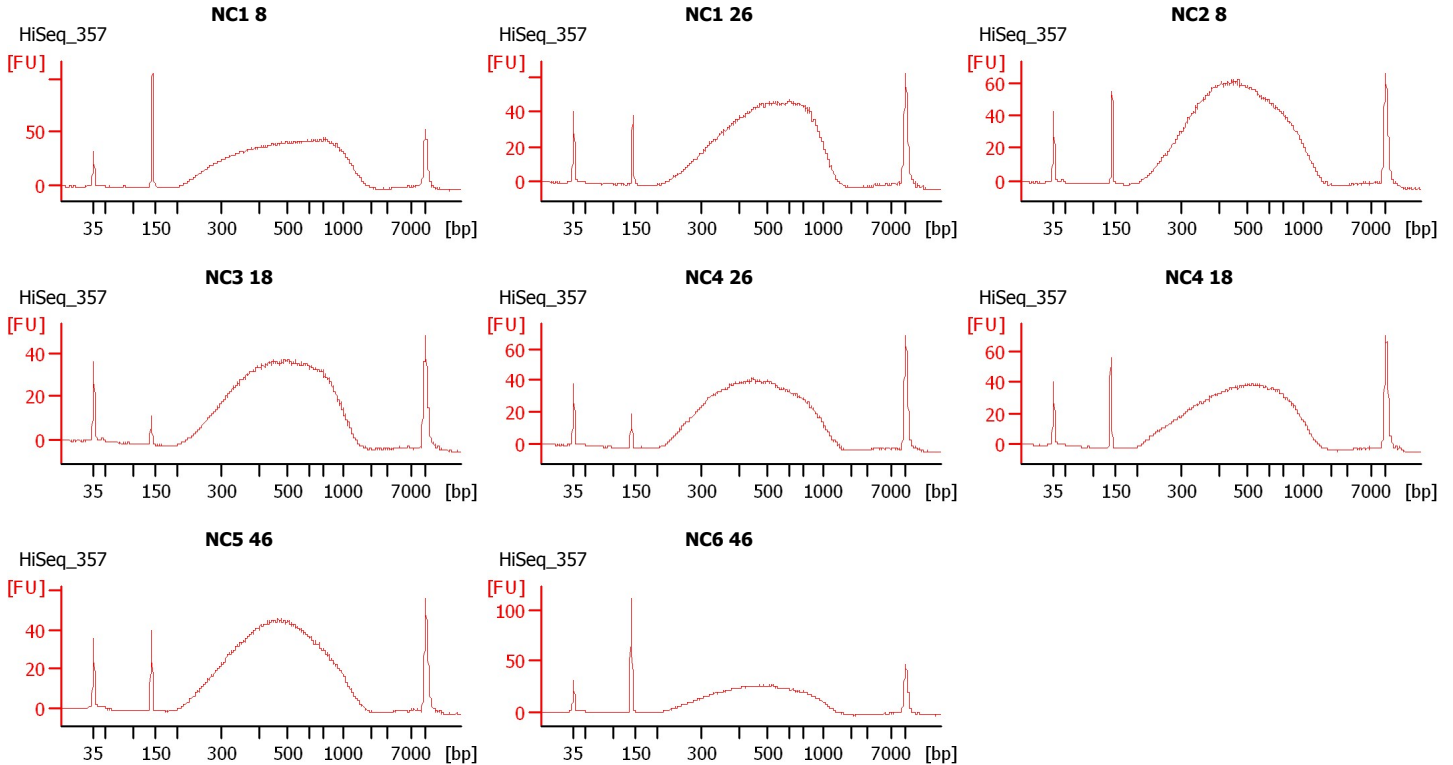
Instrument Name: DE13701086      Firmware: C.01.069  
Serial#: DE13701086      Type: G2938B

Assay Information:

Assay Origin Path: C:\Program Files\Agilent\2100 bioanalyzer\2100 expert\assays\dsDNA\High Sensitivity DNA.xsy  
Assay Class: High Sensitivity DNA Assay  
Version: 1.03  
Assay Comments: Copyright © 2003-2010 Agilent Technologies

Chip Information:

Chip Lot #:  
Reagent Kit Lot #:  
Chip Comments:



Assay Class: High Sensitivity DNA Assay  
 Data Path: C:\...ings\Bioanalyzer\2015-12-16\2015-12-16\_001\_HiSeq357\_1-8.xad

Created: 12/16/2015 2:45:26 PM  
 Modified: 12/16/2015 3:32:49 PM

**Electrophoresis File Run Summary (Chip Summary)**

Sample Name	Sample Comment	Rest. Digest	Status	Observation	Result Label	Result Color
NC1 8	HiSeq_357	<input type="checkbox"/>	✓			
NC1 26	HiSeq_357	<input type="checkbox"/>	✓			
NC2 8	HiSeq_357	<input type="checkbox"/>	✓			
NC3 18	HiSeq_357	<input type="checkbox"/>	✓			
NC4 26	HiSeq_357	<input type="checkbox"/>	✓			
NC4 18	HiSeq_357	<input type="checkbox"/>	✓			
NC5 46	HiSeq_357	<input type="checkbox"/>	✓			
NC6 46	HiSeq_357	<input type="checkbox"/>	✓			
Ladder		<input type="checkbox"/>	✓			

**Chip Lot #**

**Reagent Kit Lot #**

**Chip Comments :**

Assay Class: High Sensitivity DNA Assay  
 Data Path: C:\...ings\Bioanalyzer\2015-12-16\2015-12-16\_001\_HiSeq357\_1-8.xad

Created: 12/16/2015 2:45:26 PM  
 Modified: 12/16/2015 3:32:49 PM

**Electrophoresis Assay Details**

**General Analysis Settings**

Number of Available Sample and Ladder Wells (Max.) : 12  
 Minimum Visible Range [s] : 32  
 Maximum Visible Range [s] : 138  
 Start Analysis Time Range [s] : 33  
 End Analysis Time Range [s] : 137.5  
 Ladder Concentration [pg/μl] : 1950  
 Uses Standard Area for Ladder Fragments  
 Lower Marker Concentration [pg/μl] : 125  
 Upper Marker Concentration [pg/μl] : 75  
 Used Upper Marker for Quantitation  
 Standard Curve Fit is Point to Point  
 Show Data Aligned to Lower and Upper Marker

**Integrator Settings**

Integration Start Time [s] : 33.05  
 Integration End Time [s] : 137  
 Slope Threshold : 0.8  
 Height Threshold [FU] : 5  
 Area Threshold : 0.1  
 Width Threshold [s] : 0.6  
 Baseline Plateau [s] : 0.5

**Filter Settings**

Filter Width [s] : 0.5  
 Polynomial Order : 4

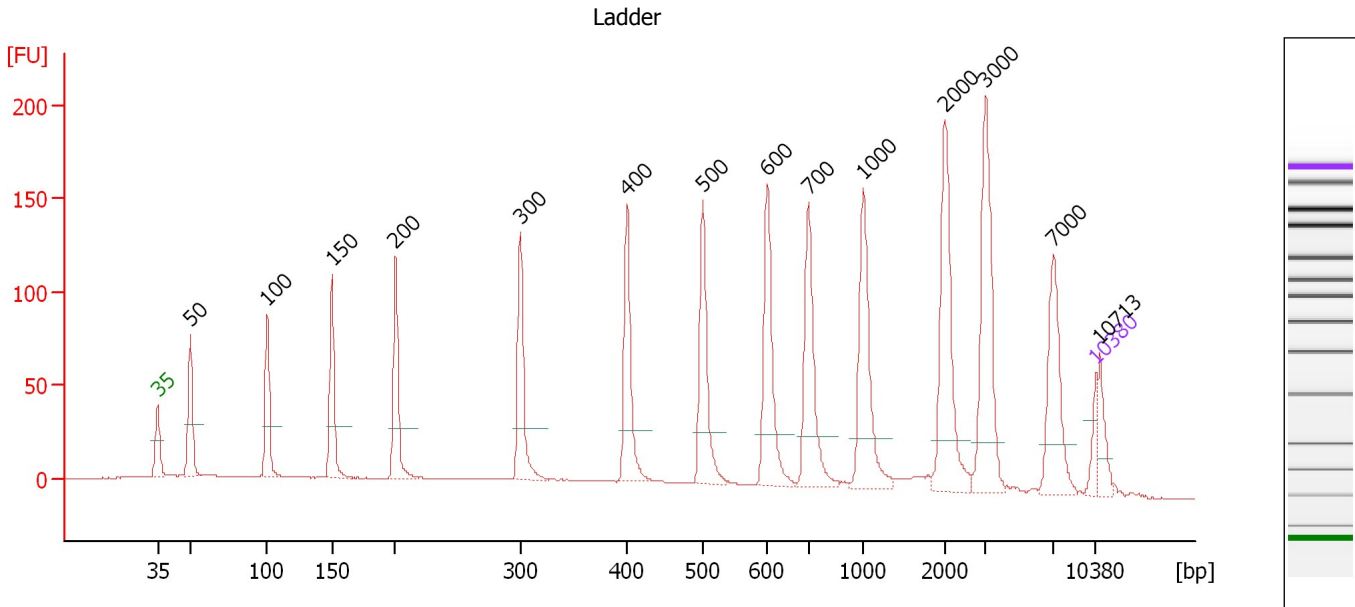
**Ladder**

Ladder Peak	Size	Area
1	35	160
2	50	210
3	100	208
4	150	221
5	200	242
6	300	270
7	400	305
8	500	306
9	600	336
10	700	321
11	1000	366
12	2000	413
13	3000	411
14	7000	400
15	10380	214

Assay Class: High Sensitivity DNA Assay  
 Data Path: C:\...ings\Bioanalyzer\2015-12-16\2015-12-16\_001\_HiSeq357\_1-8.xad

Created: 12/16/2015 2:45:26 PM  
 Modified: 12/16/2015 3:32:49 PM

**Electropherogram Summary**



**Overall Results for Ladder**

Noise: 0.3

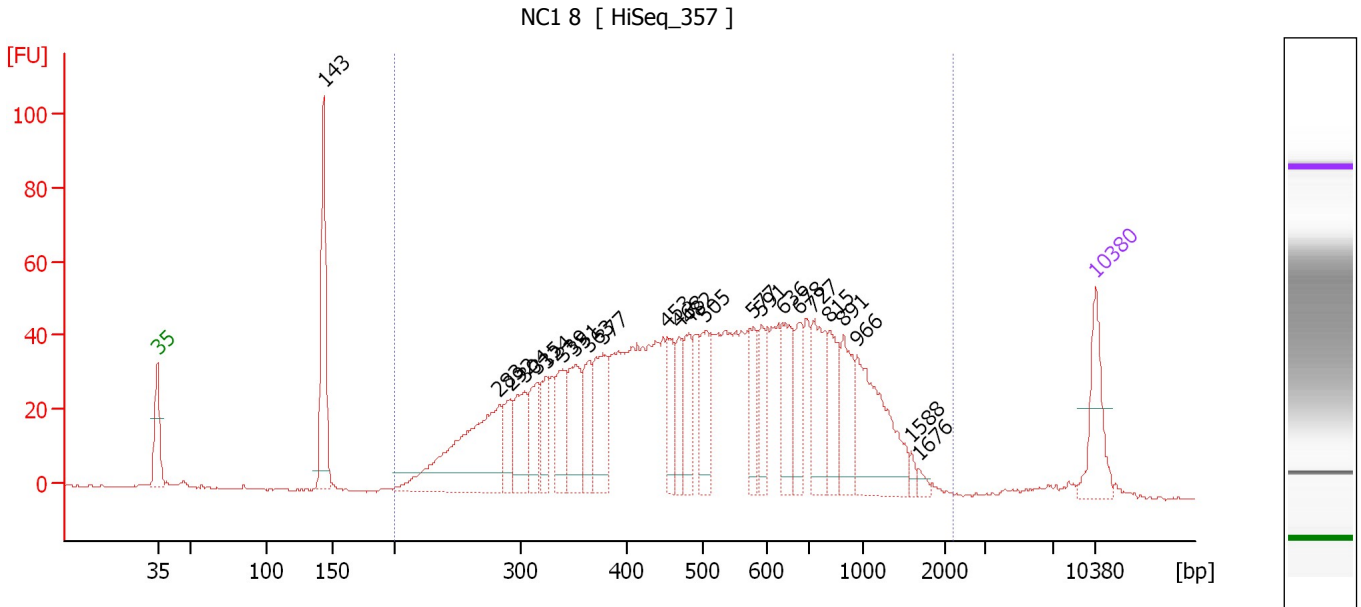
**Peak table for Ladder**

Peak	Size [bp]	Conc. [pg/μl]	Molarity [pmol/l]	Observations	Aligned Migration Time [s]
1	35	125.00	5,411.3	Lower Marker	43.00
2	50	150.00	4,545.5	Ladder Peak	45.43
3	100	150.00	2,272.7	Ladder Peak	51.18
4	150	150.00	1,515.2	Ladder Peak	56.03
5	200	150.00	1,136.4	Ladder Peak	60.75
6	300	150.00	757.6	Ladder Peak	70.09
7	400	150.00	568.2	Ladder Peak	78.04
8	500	150.00	454.5	Ladder Peak	83.66
9	600	150.00	378.8	Ladder Peak	88.51
10	700	150.00	324.7	Ladder Peak	91.57
11	1,000	150.00	227.3	Ladder Peak	95.66
12	2,000	150.00	113.6	Ladder Peak	101.72
13	3,000	150.00	75.8	Ladder Peak	104.78
14	7,000	150.00	32.5	Ladder Peak	109.81
15	10,380	75.00	10.9	Upper Marker	113.00
16	10,713	0.00	0.0		113.31

Assay Class: High Sensitivity DNA Assay  
 Data Path: C:\...ings\Bioanalyzer\2015-12-16\2015-12-16\_001\_HiSeq357\_1-8.xad

Created: 12/16/2015 2:45:26 PM  
 Modified: 12/16/2015 3:32:49 PM

**Electropherogram Summary Continued ...**



**Overall Results for sample 3 : NC1 8**

Number of peaks found: 24                      Corr. Area 1: 1,537.1  
 Noise: 0.3

**Peak table for sample 3 : NC1 8**

Peak	Size [bp]	Conc. [pg/μl]	Molarity [pmol/l]	Observations	Aligned Migration Time [s]
1	35	125.00	5,411.3	Lower Marker	43.00
2	143	237.70	2,511.4		55.39
3	283	326.02	1,746.0		68.50
4	292	63.41	329.6		69.30
5	304	94.01	469.2		70.37
6	315	78.81	378.7		71.31
7	324	65.00	303.6		72.03
8	339	80.54	360.0		73.19
9	351	107.79	464.8		74.18
10	363	76.31	318.4		75.12
11	377	124.51	500.1		76.23
12	453	66.70	223.1		81.02
13	468	61.44	198.9		81.87
14	482	76.01	239.1		82.63
15	505	85.84	257.8		83.88
16	577	61.45	161.3		87.42
17	591	69.34	177.7		88.09
18	636	91.28	217.5		89.61
19	678	70.14	156.7		90.90
20	727	115.53	240.9		91.93
21	815	76.51	142.2		93.14
22	891	85.01	144.6		94.17
23	966	184.71	289.6		95.20
24	1,588	9.10	8.7		99.22
25	1,676	8.71	7.9		99.76

Assay Class: High Sensitivity DNA Assay  
 Data Path: C:\...ings\Bioanalyzer\2015-12-16\2015-12-16\_001\_HiSeq357\_1-8.xad

Created: 12/16/2015 2:45:26 PM  
 Modified: 12/16/2015 3:32:49 PM

### Electropherogram Summary Continued ...

#### ... Peak table for sample 3 : NC1 8

Peak	Size [bp]	Conc. [pg/ $\mu$ l]	Molarity [pmol/l]	Observations	Aligned Migration Time [s]
26	10,380	75.00	10.9	Upper Marker	113.00

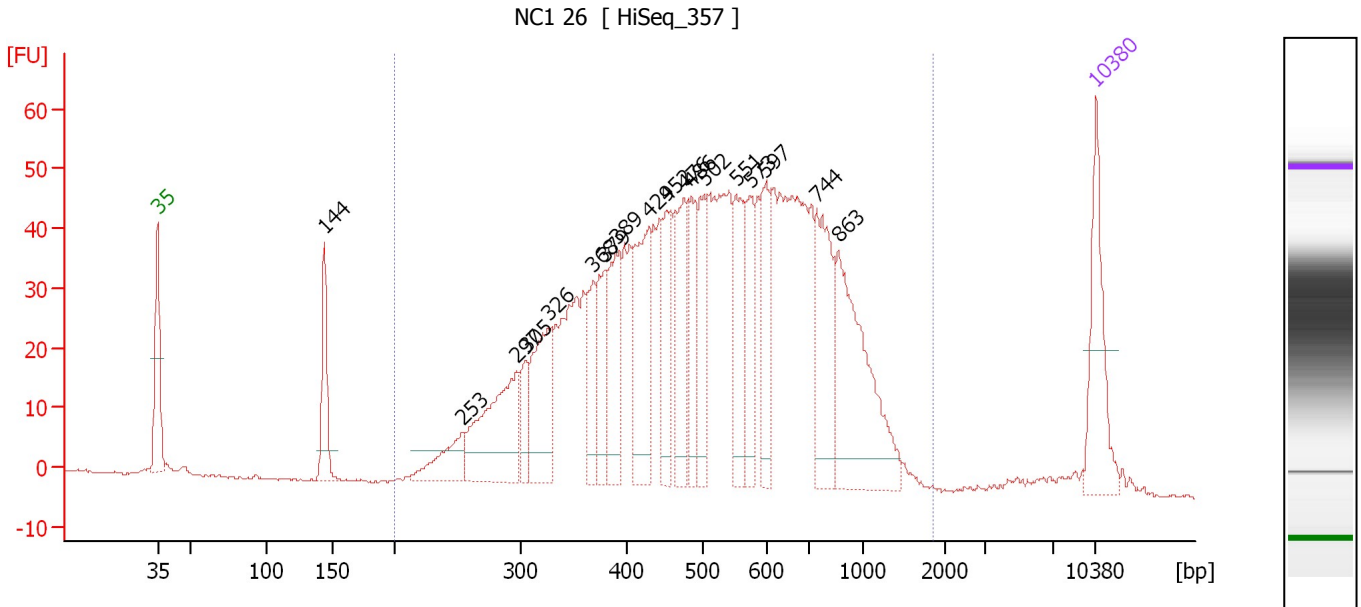
#### Region table for sample 3 : NC1 8

From [bp]	To [bp]	Average Size [bp]	Corr. Area	Molarity [pmol/l]	Co Conc. lor [pg/ $\mu$ l]	% of Total	Size distribution in CV [%]
200	2,221	570	1,537.1	10,583.0	3,067.89	94	49.4

Assay Class: High Sensitivity DNA Assay  
 Data Path: C:\...ings\Bioanalyzer\2015-12-16\2015-12-16\_001\_HiSeq357\_1-8.xad

Created: 12/16/2015 2:45:26 PM  
 Modified: 12/16/2015 3:32:49 PM

**Electropherogram Summary Continued ...**



**Overall Results for sample 4 : NC1 26**

Number of peaks found: 18                      Corr. Area 1: 1,408.1  
 Noise: 0.2

**Peak table for sample 4 : NC1 26**

Peak	Size [bp]	Conc. [pg/μl]	Molarity [pmol/l]	Observations	Aligned Migration Time [s]
1	35	125.00	5,411.3	Lower Marker	43.00
2	144	77.17	810.5		55.47
3	253	55.36	331.1		65.73
4	297	154.62	789.2		69.80
5	305	36.03	178.8		70.52
6	326	109.03	507.0		72.15
7	368	55.78	229.4		75.54
8	379	69.24	277.0		76.35
9	389	89.08	346.5		77.21
10	429	122.02	431.4		79.65
11	452	73.33	245.9		80.96
12	476	102.04	324.8		82.32
13	486	65.80	205.3		82.86
14	502	74.31	224.3		83.76
15	551	86.48	237.6		86.16
16	573	66.98	177.1		87.20
17	597	67.01	170.1		88.37
18	744	117.23	238.8		92.17
19	863	185.02	324.7		93.79
20	10,380	75.00	10.9	Upper Marker	113.00

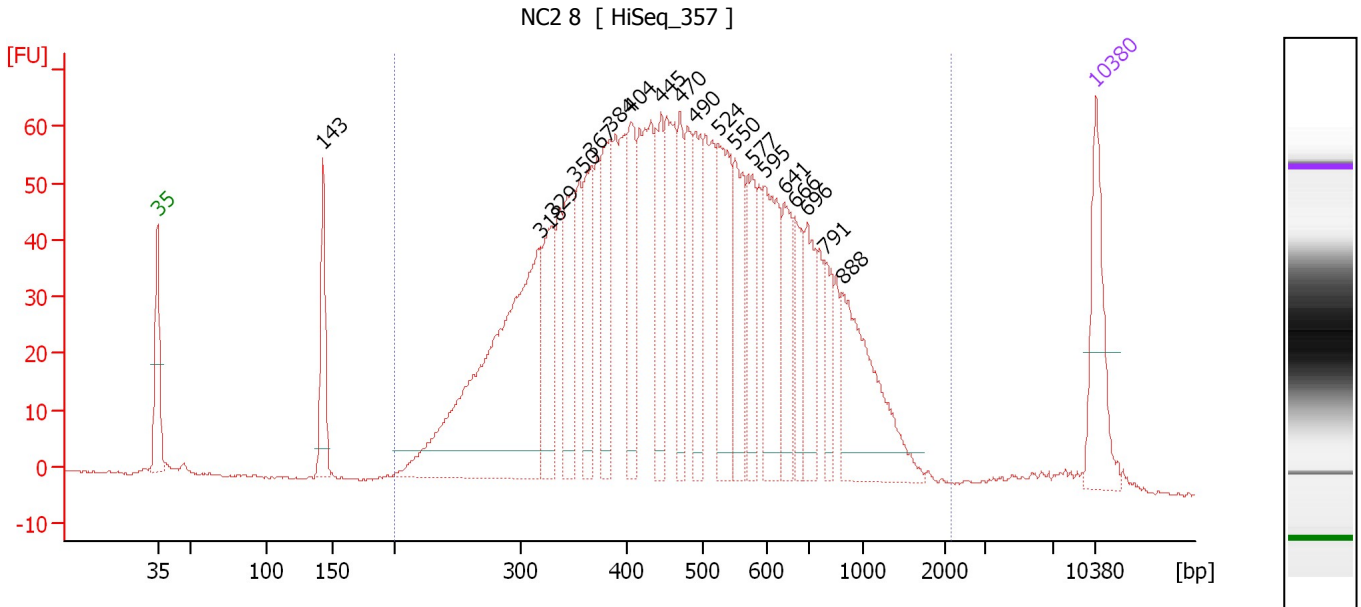
**Region table for sample 4 : NC1 26**

From [bp]	To [bp]	Average Size [bp]	Corr. Area	Molarity [pmol/l]	Co Conc. [pg/μl]	% of Total	Size distribution in CV [%]
200	1,851	549	1,408.1	8,109.7	2,445.30	96	39.6

Assay Class: High Sensitivity DNA Assay  
 Data Path: C:\...ings\Bioanalyzer\2015-12-16\2015-12-16\_001\_HiSeq357\_1-8.xad

Created: 12/16/2015 2:45:26 PM  
 Modified: 12/16/2015 3:32:49 PM

**Electropherogram Summary Continued ...**



**Overall Results for sample 5 : NC2 8**

Number of peaks found: 19                      Corr. Area 1: 1,928.9  
 Noise: 0.2

**Peak table for sample 5 : NC2 8**

Peak	Size [bp]	Conc. [pg/μl]	Molarity [pmol/l]	Observations	Aligned Migration Time [s]
1	35	125.00	5,411.3	Lower Marker	43.00
2	143	96.24	1,021.4		55.33
3	318	474.28	2,260.3		71.52
4	329	104.91	482.6		72.43
5	350	104.25	451.4		74.07
6	367	92.91	384.0		75.38
7	384	108.71	429.2		76.75
8	404	98.18	367.8		78.30
9	445	90.89	309.5		80.57
10	470	72.10	232.4		81.98
11	490	85.10	263.0		83.12
12	524	116.42	336.4		84.85
13	550	88.01	242.6		86.07
14	577	73.72	193.6		87.39
15	595	116.78	297.5		88.26
16	641	64.48	152.5		89.76
17	666	50.94	115.9		90.53
18	696	65.02	141.6		91.44
19	791	40.10	76.8		92.81
20	888	153.15	261.5		94.12
21	10,380	75.00	10.9	Upper Marker	113.00

**Region table for sample 5 : NC2 8**

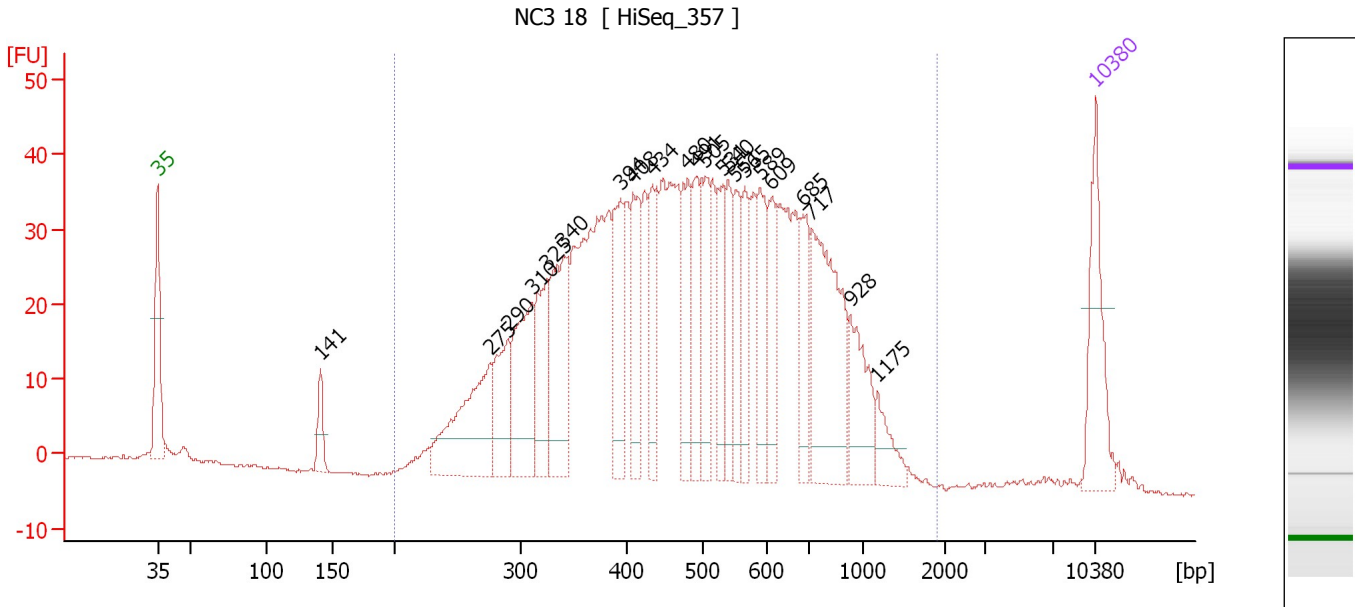
From [bp]	To [bp]	Average Size [bp]	Corr. Area	Molarity [pmol/l]	Co Conc. [pg/μl]	% of Total	Size distribution in CV [%]
200	2,148	519	1,928.9	10,855.7	3,040.56	96	45.2



Assay Class: High Sensitivity DNA Assay  
 Data Path: C:\...ings\Bioanalyzer\2015-12-16\2015-12-16\_001\_HiSeq357\_1-8.xad

Created: 12/16/2015 2:45:26 PM  
 Modified: 12/16/2015 3:32:49 PM

**Electropherogram Summary Continued ...**



**Overall Results for sample 6 : NC3 18**

Number of peaks found: 22                      Corr. Area 1: 1,217.9  
 Noise: 0.2


**Peak table for sample 6 : NC3 18**

Peak	Size [bp]	Conc. [pg/μl]	Molarity [pmol/l]	Observations	Aligned Migration Time [s]
1	35	125.00	5,411.3	Lower Marker	43.00
2	141	33.52	360.5		55.14
3	275	162.59	894.7		67.79
4	290	78.65	411.0		69.15
5	310	124.92	609.6		70.93
6	325	92.65	432.2		72.06
7	340	135.76	604.6		73.29
8	394	91.96	353.7		77.57
9	408	87.63	325.7		78.48
10	434	69.14	241.6		79.93
11	480	87.59	276.6		82.53
12	491	78.30	241.6		83.16
13	505	67.69	203.2		83.89
14	531	58.93	168.2		85.16
15	540	58.27	163.4		85.62
16	551	56.14	154.5		86.12
17	565	54.94	147.4		86.80
18	589	72.78	187.2		87.98
19	609	54.91	136.5		88.80
20	685	62.95	139.2		91.12
21	717	186.29	393.5		91.80
22	928	69.05	112.8		94.67
23	1,175	30.09	38.8		96.72
24	10,380	75.00	10.9	Upper Marker	113.00

Assay Class: High Sensitivity DNA Assay  
Data Path: C:\...ings\Bioanalyzer\2015-12-16\2015-12-16\_001\_HiSeq357\_1-8.xad

Created: 12/16/2015 2:45:26 PM  
Modified: 12/16/2015 3:32:49 PM

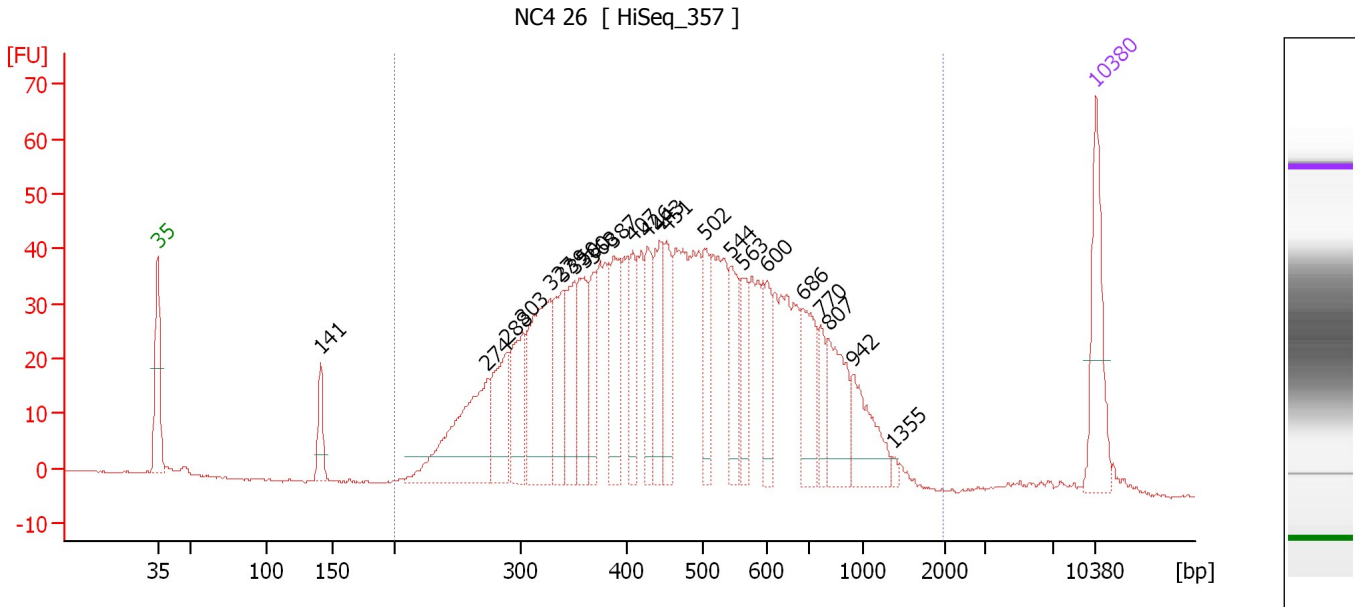
**Electropherogram Summary Continued ...****... Region table for sample 6 : NC3 18**

From [bp]	To [bp]	Average Size [bp]	Corr. Area	Molarity [pmol/l]	Co Conc. lor [pg/μl]	% of Total	Size distribution in CV [%]
200	1,897	523	1,217.9	9,262.9	 2,659.36	98	40.3

Assay Class: High Sensitivity DNA Assay  
 Data Path: C:\...ings\BIOANALYZER\2015-12-16\2015-12-16\_001\_HiSeq357\_1-8.xad

Created: 12/16/2015 2:45:26 PM  
 Modified: 12/16/2015 3:32:49 PM

**Electropherogram Summary Continued ...**



**Overall Results for sample 7 : NC4 26**

Number of peaks found: 23                      Corr. Area 1: 1,336.9  
 Noise: 0.2

**Peak table for sample 7 : NC4 26**


Peak	Size [bp]	Conc. [pg/μl]	Molarity [pmol/l]	Observations	Aligned Migration Time [s]
1	35	125.00	5,411.3	Lower Marker	43.00
2	141	42.36	455.4		55.15
3	274	187.43	1,038.1		67.62
4	288	88.41	464.6		69.00
5	303	88.42	442.9		70.29
6	327	172.52	798.4		72.27
7	339	85.86	383.8		73.19
8	350	79.09	342.4		74.07
9	360	84.17	354.4		74.85
10	368	57.73	237.4		75.54
11	387	82.63	323.5		77.01
12	407	58.65	218.4		78.44
13	426	59.01	210.0		79.50
14	443	77.51	265.1		80.46
15	451	63.72	214.0		80.92
16	502	55.60	167.7		83.78
17	544	66.06	183.9		85.80
18	563	44.88	120.8		86.72
19	600	50.44	127.3		88.52
20	686	76.47	168.9		91.14
21	770	30.85	60.7		92.52
22	807	76.92	144.4		93.03
23	942	65.28	105.0		94.87
24	1,355	4.43	5.0		97.81
25	10,380	75.00	10.9	Upper Marker	113.00

Assay Class: High Sensitivity DNA Assay  
Data Path: C:\...ings\Bioanalyzer\2015-12-16\2015-12-16\_001\_HiSeq357\_1-8.xad

Created: 12/16/2015 2:45:26 PM  
Modified: 12/16/2015 3:32:49 PM

**Electropherogram Summary Continued ...**

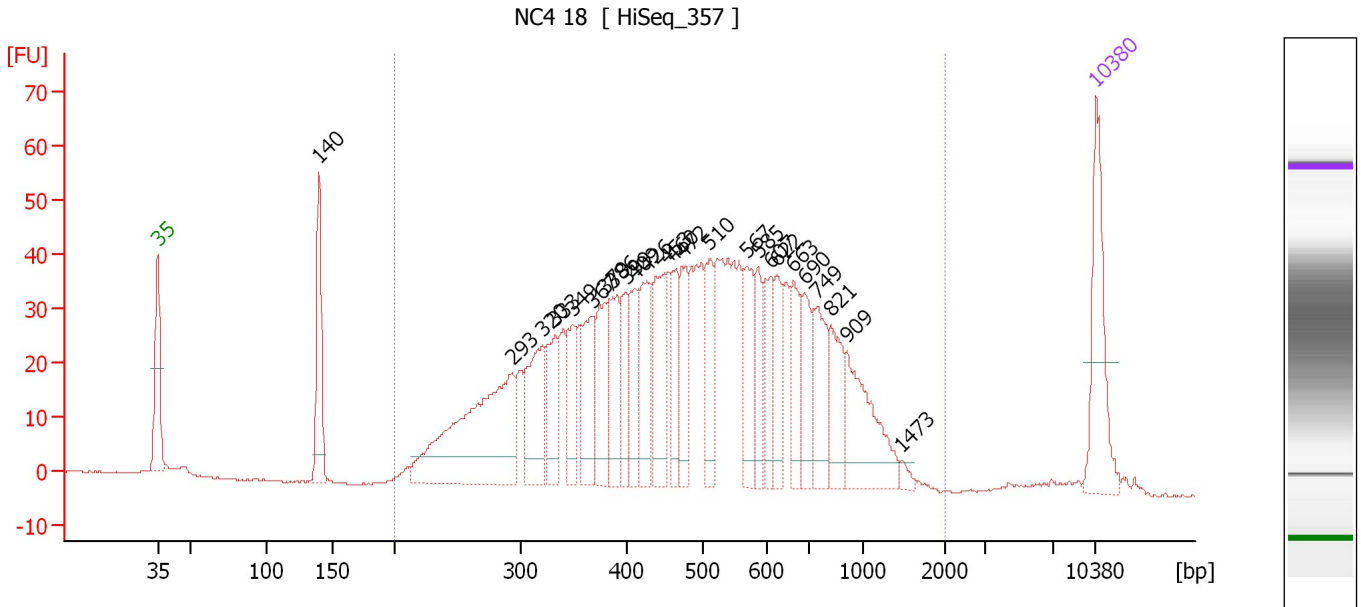
... Region table for sample 7 : NC4 26

From [bp]	To [bp]	Average Size [bp]	Corr. Area	Molarity [pmol/l]	Co Conc. lor [pg/μl]	% of Total	Size distribution in CV [%]
200	1,971	505	1,336.9	8,815.1	 2,436.41	97	41.5

Assay Class: High Sensitivity DNA Assay  
 Data Path: C:\...ings\Bioanalyzer\2015-12-16\2015-12-16\_001\_HiSeq357\_1-8.xad

Created: 12/16/2015 2:45:26 PM  
 Modified: 12/16/2015 3:32:49 PM

**Electropherogram Summary Continued ...**



**Overall Results for sample 8 : NC4 18**

Number of peaks found: 25                      Corr. Area 1: 1,255.1  
 Noise: 0.1

**Peak table for sample 8 : NC4 18**

Peak	Size [bp]	Conc. [pg/μl]	Molarity [pmol/l]	Observations	Aligned Migration Time [s]
1	35	125.00	5,411.3	Lower Marker	43.00
2	140	101.58	1,098.7		55.07
3	293	261.15	1,350.1		69.45
4	320	94.39	446.4		71.71
5	333	57.70	262.9		72.68
6	349	51.08	221.9		73.98
7	367	67.61	279.2		75.41
8	379	70.75	282.8		76.38
9	386	66.28	260.1		76.94
10	399	48.45	184.0		77.95
11	409	52.70	195.2		78.55
12	426	68.01	241.7		79.53
13	453	91.13	305.0		81.01
14	460	52.04	171.4		81.42
15	472	59.46	190.7		82.11
16	510	52.06	154.6		84.15
17	567	62.64	167.3		86.92
18	585	40.94	106.0		87.80
19	607	45.29	113.1		88.73
20	622	45.38	110.5		89.19
21	663	49.41	112.9		90.44
22	690	46.76	102.6		91.27
23	749	63.53	128.5		92.24
24	821	48.89	90.3		93.21
25	909	90.60	151.1		94.41

Assay Class: High Sensitivity DNA Assay  
 Data Path: C:\...ings\Bioanalyzer\2015-12-16\2015-12-16\_001\_HiSeq357\_1-8.xad

Created: 12/16/2015 2:45:26 PM  
 Modified: 12/16/2015 3:32:49 PM

### Electropherogram Summary Continued ...

#### ... Peak table for sample 8 : NC4 18

Peak	Size [bp]	Conc. [pg/ $\mu$ l]	Molarity [pmol/l]	Observations	Aligned Migration Time [s]
26	1,473	5.70	5.9		98.53
27	10,380	75.00	10.9	Upper Marker	113.00

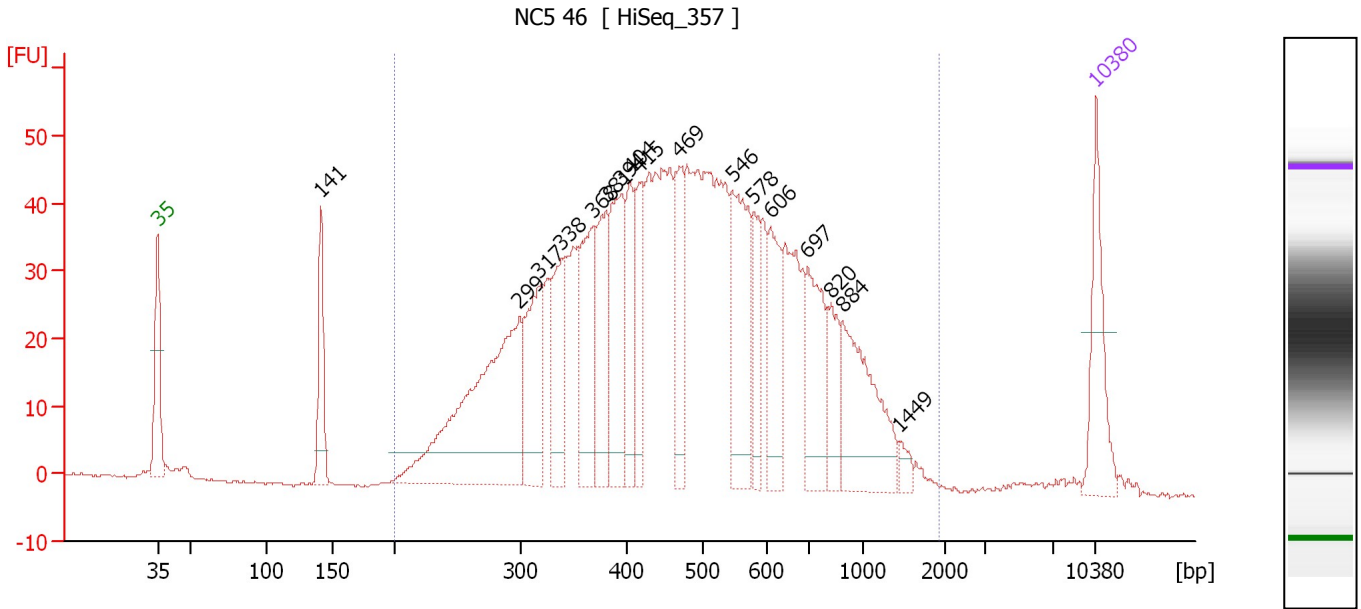
#### Region table for sample 8 : NC4 18

From [bp]	To [bp]	Average Size [bp]	Corr. Area	Molarity [pmol/l]	Co Conc. lor [pg/ $\mu$ l]	% of Total	Size distribution in CV [%]
200	2,001	525	1,255.1	7,238.4	2,044.53	95	42.4

Assay Class: High Sensitivity DNA Assay  
 Data Path: C:\...ings\Bioanalyzer\2015-12-16\2015-12-16\_001\_HiSeq357\_1-8.xad

Created: 12/16/2015 2:45:26 PM  
 Modified: 12/16/2015 3:32:49 PM

**Electropherogram Summary Continued ...**



**Overall Results for sample 9 : NC5 46**

Number of peaks found: 17                      Corr. Area 1: 1,389.7  
 Noise: 0.2

**Peak table for sample 9 : NC5 46**

Peak	Size [bp]	Conc. [pg/μl]	Molarity [pmol/l]	Observations	Aligned Migration Time [s]
1	35	125.00	5,411.3	Lower Marker	43.00
2	141	97.81	1,050.1		55.17
3	299	393.84	1,997.6		69.97
4	317	128.71	615.0		71.45
5	338	106.36	476.7		73.12
6	368	134.14	551.8		75.52
7	381	118.57	472.1		76.50
8	394	144.85	556.3		77.61
9	404	85.64	321.4		78.25
10	415	74.85	273.1		78.90
11	469	93.13	301.0		81.91
12	546	167.65	465.3		85.89
13	578	56.41	147.8		87.46
14	606	88.82	221.9		88.71
15	697	114.20	248.1		91.49
16	820	54.00	99.8		93.20
17	884	147.01	252.0		94.08
18	1,449	11.78	12.3		98.38
19	10,380	75.00	10.9	Upper Marker	113.00

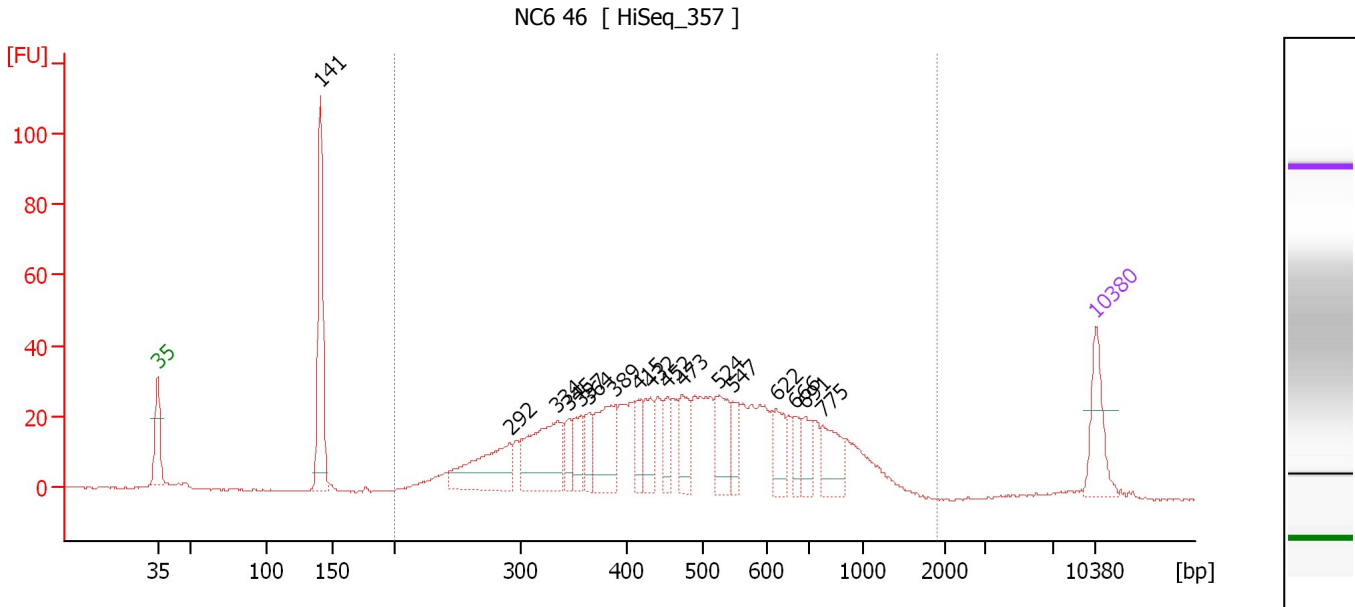
**Region table for sample 9 : NC5 46**

From [bp]	To [bp]	Average Size [bp]	Corr. Area	Molarity [pmol/l]	Co Conc. [pg/μl]	% of Total	Size distribution in CV [%]
200	1,921	519	1,389.7	10,768.1	3,015.67	96	44.7

Assay Class: High Sensitivity DNA Assay  
 Data Path: C:\...ings\Bioanalyzer\2015-12-16\2015-12-16\_001\_HiSeq357\_1-8.xad

Created: 12/16/2015 2:45:26 PM  
 Modified: 12/16/2015 3:32:49 PM

**Electropherogram Summary Continued ...**



**Overall Results for sample 10 : NC6 46**

Number of peaks found: 17      Corr. Area 1: 841.2  
 Noise: 0.2

**Peak table for sample 10 : NC6 46**

Peak	Size [bp]	Conc. [pg/μl]	Molarity [pmol/l]	Observations	Aligned Migration Time [s]
1	35	125.00	5,411.3	Lower Marker	43.00
2	141	301.96	3,242.0		55.17
3	292	171.80	892.1		69.33
4	334	201.68	914.9		72.80
5	345	42.88	188.3		73.67
6	357	60.37	256.5		74.60
7	364	48.74	202.7		75.20
8	389	133.63	520.9		77.14
9	415	48.84	178.2		78.90
10	432	67.91	238.3		79.83
11	452	48.87	163.7		80.98
12	473	78.64	251.9		82.14
13	524	92.16	266.5		84.82
14	547	46.02	127.5		85.93
15	622	60.10	146.5		89.17
16	666	36.72	83.6		90.51
17	691	46.46	101.8		91.30
18	775	78.63	153.6		92.60
19	10,380	75.00	10.9	Upper Marker	113.00

**Region table for sample 10 : NC6 46**

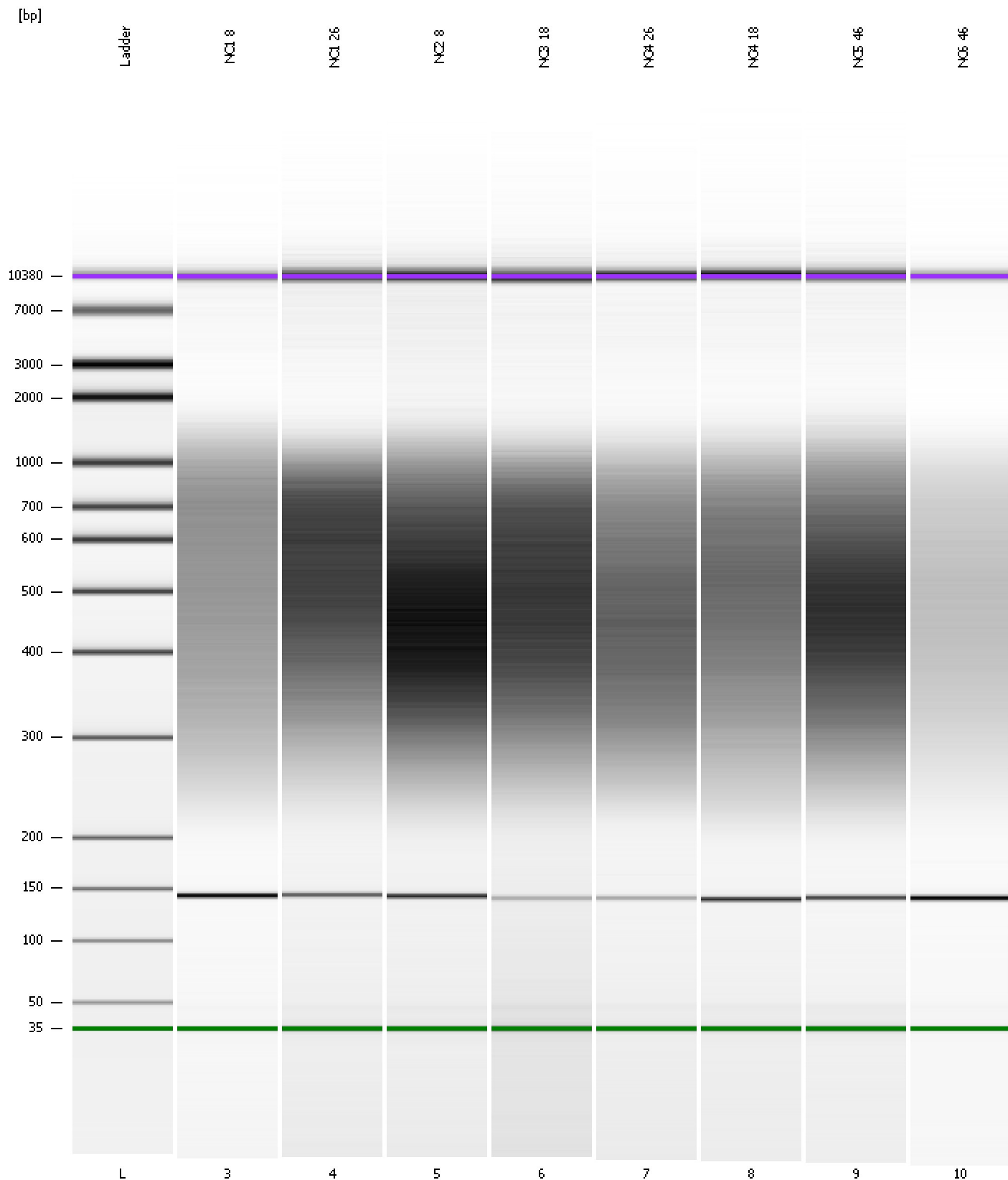
From [bp]	To [bp]	Average Size [bp]	Corr. Area	Molarity [pmol/l]	Co Conc. [pg/μl]	% of Total	Size distribution in CV [%]
200	1,915	514	841.2	7,339.0	2,053.50	88	41.3



Assay Class: High Sensitivity DNA Assay  
Data Path: C:\...ings\Bioanalyzer\2015-12-16\2015-12-16\_001\_HiSeq357\_1-8.xad

Created: 12/16/2015 2:45:26 PM  
Modified: 12/16/2015 3:32:49 PM

**Gel Image**



Assay Class: High Sensitivity DNA Assay Created: 12/16/2015 2:45:26 PM  
 Data Path: C:\...ings\Bioanalyzer\2015-12-16\2015-12-16\_001\_HiSeq357\_1-8.xad Modified: 12/16/2015 3:32:49 PM

**Run Logbook**

Description	Number	Source	Category	Sub Category	Time	Time Zone	User	Host
Run ended on port 1 (Number of wells acquired: 12)		Instrument	Run		12/16/2015 3:26:43 PM	(GMT --08:00) Pacific Standard Time	UC Davis	D8XSMGH1
Run started on port 1 (File: C:\Documents and Settings\Bioanalyzer\2015-12-16\2015-12-16_001.xad)		Instrument	Run		12/16/2015 2:45:31 PM	(GMT --08:00) Pacific Standard Time	UC Davis	D8XSMGH1
Product Number : G2938B		Instrument	Run		12/16/2015 2:45:31 PM	(GMT --08:00) Pacific Standard Time	UC Davis	D8XSMGH1
Name :		Instrument	Run		12/16/2015 2:45:31 PM	(GMT --08:00) Pacific Standard Time	UC Davis	D8XSMGH1
Vendor : Agilent Technologies		Instrument	Run		12/16/2015 2:45:31 PM	(GMT --08:00) Pacific Standard Time	UC Davis	D8XSMGH1
Serial# : DE13701086		Instrument	Run		12/16/2015 2:45:31 PM	(GMT --08:00) Pacific Standard Time	UC Davis	D8XSMGH1
Firmware : C.01.069		Instrument	Run		12/16/2015 2:45:31 PM	(GMT --08:00) Pacific Standard Time	UC Davis	D8XSMGH1
Cartridge : Electrode		Instrument	Run		12/16/2015 2:45:31 PM	(GMT --08:00) Pacific Standard Time	UC Davis	D8XSMGH1